

Virtual Fishing Games have evolved from crude early DOS (Disk Operating System) games along several paths resulting in fishing games for PC's, game consoles, hand held games, cell phones, video arcades and high end simulators. They have increased in complexity to include: more accurate portrayal of specific species, fish actions, different sizes and varieties of fish, underwater habitat, boats, vibrant color displays, realistic sounds, dedicated game controllers (virtual fishing rods), force feedback, nibbles, hook setting, fishing line tension, vibration and other cues resulting in more realistic experiences.

This site focuses on technical and marketing coverage of the history of virtual fishing games, leading to the development of fishing games incorporating force feedback joysticks, vibration (rumble pack), dedicated fishing game controllers and free standing fishing games. Force feedback technology is often called *haptic* from the Greek word, "haptesthai" meaning touch. Several early virtual fishing games "set the stage" for the force feedback games of today, not only virtual fishing games, but other games as well.

The future of virtual fishing games is also discussed. This page is provided for game designers, virtual fishing enthusiasts and others interested in the evolution of virtual fishing games as a service of Polson Enterprises, a new product development research firm.



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The Early Days

Radio Shack may have launched the category with the 1977 game, **Gone Fishing**, written in TRSDOS Basic by

William Engel for the TRS-80 Model I. It was followed up by a 1979 version, **Gone Fishing**, also in Basic, by Personal Software for Radio Shack's TRS-80 Model III computer. This was the era of PONG, so don't expect much reality from these two games. However, they did break the ground for what we have today.

Fishing Derby was released by ActiVision for the Atari 2600 operating system in 1980. This was perhaps the first virtual fishing game with any glimpse of reality, complete with a color display and large blocky pixels. Written by David Crane and controlled by an Atari joystick, it was one of the first four games released by ActiVision. Atari Times recently carried a review of this now classic game. Fishing Derby's operating manual is still available online. ActiVision may be best known by some as the developer of "Little Computer People". Atari Age provides additional coverage of Fishing Derby.

Early Hand Held LCD/LED Fishing Games

The 1980's and 90's saw an explosion of small handheld LCD/LED games in Japan. **Fishing** released in 1981 by Gakken is an example. In 1983, Gakken released **Fishing Boy**, considerably more complex, however still just a small hand held game.

Bandai tested the waters with its **Power Fishing** hand held game. Several hand held games made it to America, including Tiger Electronic's **Gone Fishin'**. As the coverage provided by Retrology illustrates, it was more of a kids game than what we now know as virtual fishing games. These and other hand held games, provided the springboard for the hand held virtual pets (tamagotchi, etc) launched in Japan in 1996 that were very hot toys in the U.S. for Christmas 1997.

DOS Fishing Games

As the DOS operating system and IBM's standardized PC's began to dominate, color monitors with increased resolution began to appear. Fishing games became much more realistic and captivating. Among the early entries were **Rich Tayber's Bass Champ Pro** (1991), **Bass Class** (1992) and **Bass Duel** (1993). Later DOS entries really "stepped up" in realism as graphic capabilities were enhanced even more in the mid 1990's. **TNN Outdoors Bass Tournament '96** (1995), **Virtual Fishing** (1997) are good examples of that era. World of Computer Fishing Games by Bo Ingemann Jensen of Denmark, provides screen images of many DOS fishing games.

Gone Fishing, a DOS fishing game distributed on CDROMs from Amtex, was reviewed by HomePC.

A Little Too Much Like the Reel Thing
HomePC
March 1995
Vol.2 No.3 Pg. 84

They found the action to be slow and rewards far and few between. However, they noted it provided "a surprising accurate simulation of the fresh water fishing experience." It is unknown who first used the "play on words" *Reel* for *Real* in a headline, but it has been ubiquitous in fishing game media since this article.

Early Windows Fishing Games

Trophy Bass, introduced in 1995 by Sierra On-Line, became the best selling CDROM fishing game of all time per

Simulated Fishing Game Catches On

New York Times Wire Service
14 Feb. 1997
by Lonnie Brown

The article states they recently released **Trophy Bass 2**, which includes a virtual reality tour of Castaic Lake. In the game, several real champion bass tournament fishermen provide tips and allow players to play on a local network or modem to modem and a depth finder helps position your boat over your favorite fishing spot. The number of colors increased to 256, providing increased realism over version 1.

Alligator Software introduced **Fishing Fever** on the Windows platform in 1995. **Katch'N Release** by Mark Scisco of Express Graphics was another early Windows fishing game. Katch'N Release was reviewed by the Dayton Daily News.

Computer Games: Cyber Fishing is Here
Dayton Daily News
Sept. 22, 1996
by Jim Morris

At that time Mr. Scisco had an updated version that worked on both Windows and Windows '95. Mr. Sisco created the first game in 1989 and has been working on the new one since 1992. An avid fisherman, he carries his 35 mm camera on fishing outings, photos his catch against a white back ground and scans the images for use in his game. He also records sounds "like the boat's motor and splashing water. An article on the AugustaSports.Com

Learning How to Fish Can be Found in Computer Game
AugustaSports.Com
25 April 1999

reported Mark Sisco was then marketing his "third or fourth" version of **Katch'N Release** for PCs with Windows 3.1, Windows 95, Windows 98 or Windows NT.

Game Console Fishing Games

In 1994, Nashville Network and American Softworks announced they were going to introduce an authentic bass fishing game, **TNN Tournament of Champions**, for Super Nintendo and Sega Genesis. The announcement was covered by the Providence Journal-Bulletin.

Getting the Bass to Byte
Providence Journal-Bulletin (Rhode Island)
Sports Section
21 October 1994
by Tom Meade

The lengthy article reported a real-life, local fishing tournament the weekend before being won with a single fish under two pounds from a chilly lake and suggested these new games could offer bass anglers an opportunity to stay on top of their game in the fall and winter. **TNN Tournament of Champions** designers received assistance from Roland Martin, a professional fisherman, and a group of tackle manufacturers. "After a brief introduction to the game from by one of the professional fishermen, the player may select Free Fishing, Tournament Play or TNN Bass Pro Shop." The player receives \$100 entering the Pro Shop and can but supplemental rods, reels and lures to those he already has in the game's tackle box. Now you know why the tackle manufacturer's were involved. The article's use of the "play on words" of "byte" for "bite" never quite caught on to the extent of "reel" for "real" in the media.

Game Consoles (Nintendo, Sega, Sony, etc) began to come on strong. Virtual Fishing written for Nintendo's Game Boy console released in Japan Oct. 6th, 1995. Developed by Pack-In Video, it was one of Nintendo's early fishing games. GameFAQs provides a nice review of Virtual Fishing.

On 15 June 1995, the Bass Anglers Sportsman Society and software publisher T*HQ (T-HQ originally called Toy Head Quarters) released **Bass Masters Classic** for the new Super Nintendo Entertainment Station. PR Newswire carried the press release.

Super Nintendo Video Game Players 'Compete' for 'Bass Masters Classic Berth'
PR Newswire
15 June 1995

The game included underwater views of fish and fishing lures and was the only video game licensed by B.A.S.S. If a player subscribes to Nintendo Power Magazine, they could win a trip to the 25th anniversary of the real B.A.S.S. Masters Classic in Greensboro N.C., along with passes to Press Day with the pros, exclusive seating and reserved seats at the weight-ins. Bassmaster magazine editor Dave Precht was a consultant to T*HQ during game development. A Sega Genesis version was expected later that summer. Anglers visit with an old fisherman in the bait shop while they buy lures, rods, reels, fishing line, engines, outboard motors and fish finders (another place for advertising revenue). Anglers could keep their equipment for future games or buy different items. The cost of equipment was subtracted from your winnings (I bet today's pro wantabees wish they could do that!). Multiple levels of play, and a help button make the game an easy start for beginners. Water temperature, fish strength as they play out, the location of competitors on the lake and a practice pond were among its features. The game listed at about \$69.95.

As mentioned in the Arcade Section, Sega released **Get Bass** as an arcade game in 1998, They shortly later (by October 1998) announced they would port **Get Bass** for their Dreamcast console and sell it with a separate fishing controller (virtual fishing rod). Like many other console games, it was available in both Japanese and American versions. Japan titled the game, **Get Bass**, while it was sold as **Sega Bass Fishing** in the United States.

Sega Bass Fishing for the Dreamcast was released 6 Oct. 1999. The release of **Sega Bass Fishing** for the Dreamcast console was covered by the New York Times.

Video Fishing Game Means No Slimy Bait
New York Times
4 Nov 1999 Pg. G12
by J.C. Herz

It promised "the sensation of sport fishing in an expansive 3-D virtual lake", sunlight reflections bounce off ripples of the lake and "realistically rendered wriggling fish". The writer was captivated by the ability to "feel" the tug on the other end of force feedback fishing reel. The manual warned him not to play more than 30 minutes due to rod vibrations. Mr Herz joked, he needed painkillers after an hour. He listed several additional features he would like to see in the game (sort of a wish list for future designers) including the ability to play with two players on the same console, online chat capability, networked tournaments allowing remote contestants to fish the same lake, being able to post your rankings on the net, being able to tell virtual fish stories online and the ability to download lures. He also came down hard on Sega's Virtual Memory Unit (V.M.U.) that was supposed to give the game a portable dimension (carry your materials to another console). It had no portable tackle box or pocket bass farm. Sega Bass Fishing listed for about \$39.95 and required a separate \$34.95 fishing controller (rod & reel).

Get Bass Fishing (Sega Bass Fishing in Asia and Oceania) was reviewed by The Australian.

Bass Hunt Delivers Real Challenge
The Australian
25 Apr. 2000 edition

This reviewer pointed out the game was played with Sega's force feedback virtual fishing rod and in addition to hooking the bass, sometimes you have to guide your catch away from being snagged on underwater obstacles, plus the line can snap if you get it too tight.

Sega released a salt water version for the Dreamcast titled, **Sega Marine Fishing**, on 17 Oct. 2000.

An updated version of Sega Bass Fishing titled, **Sega Bass Fishing 2**, was released 21 Aug. 2001.

On 24 Sept. 2002, Sega released **Sega Bass Fishing Duel** for Play Station 2.

For additional information on console games, see:

- Game Daily an online "interactive entertainment" trade newsletter
 - Game Developers Conference an annual tradeshow
 - International Game Developers Association
 - Global Gamer excellent basic data on console games.
 - Console Game World console game reviews
 - Game Rankings.Com console fishing game reviews.
 - Universal Video Game List extensive list of video games along with release dates and developers
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Force Feedback Begins to Appear in Arcade Games, Console Games and PC Gaming Pads

Hard Drivin', a haptic (force feedback) video arcade game from Atari, was the number one arcade game in the USA and number one driving game in Japan in 1989 and 1990. Hard Drivin' and its successor Race Drivin' were the first arcade games to incorporate haptic feedback. Hard Drivin' was created at Atari by Max Behensky, Erik Durfey, Jed Margolin, Rick Moncrief, and Stephanie Mott. It used force-feed back for steering, braking, accelerating and shifting. Atari received U.S. Patent 5,203,563 on 20 April 1993 for a steering wheel with vibration feedback from two rotating eccentric weights.

Road and Track described Hard Drivin' in their 1989 August issue Pgs. 88-89.

In Haptics and Entertainment, Margaret Minsky reports, the Hard Drivin' game family was inspired by a 2-D force-feedback joystick created at Atari Cambridge Research Lab in the early 1980's by researchers including Behensky. One of the early demonstrations developed was a **haptic-only fishing game** in which the several strategies made the fish seem alive. The fish played out line, struggled, forged, and gradually tired out (weaker motions) at a rate dependent on the level of energetic movement of the user.

In 1997, Nintendo added vibration to the player experience when they launched the "Rumble Pack" module for their N64 console in the U.S. with in conjunction with Star Fox (a space adventure game).

Third party manufactures rapidly created force feedback accessories for console games including racing steering wheels, flight simulator joy sticks, foot brakes, gear box shifters and others.

Some vendors produce gaming pads for PCs similar to game consoles. It was not long till they too began incorporating force feedback. In 2001, Gravis released the Xterminator Force Gamepad with force feedback. JoyStickReview.Com provides excellent reviews of several controllers with feedback and vibration.

Console and PC fishing games quickly picked up the feature. Vibration feedback is now built into many game console controllers and most Windows fishing games can be controlled by a virtual fishing rod controllers. Recently, Immersion has announced plans to add force feedback to existing non-force feedback games. Using a technology called Touchware, through a simple download, they interpret sound effects and create the appropriate force feedback for Windows 95 and later operating systems. A beta version was shown at the Game Developers Conference in March 2003 per Game Daily 6 March 2003.

A student at Stanford has a nice introduction to Force Feedback Devices with considerable coverage of gaming applications.

GC-TECH sponsored a haptic Fishing Game Simulator from June 1999 to May 2000, and the development of a Haptic device, controller, and mechanism which enables a user to feel like fishing in the real world. Researchers were:

Im, Dae-Chul
Hwang, Jung-Hoon
Kim, Sang-Youn

per Finished Projects at the Telerobotics and Control Laboratory, Department of Mechanical Engineering Korea Advanced Institute of Science and Technology (KAIST).

Self Contained, Free Standing "Fishing Rod" Fishing Games

The evolution of fishing games into self contained hand held "air fishing games" is pretty easy to see in hindsight. LCD hand held fishing games have been popular in Japan since the early 1980's and many have worked their way into the United States. Bandai's 1984 handheld called, Power Fishing looks strikingly like the hand held self contained Bass Fishin' game released by Radica in 1996. Power Fishing did not include force feedback, but they were certainly on the right track. Bandai just took the basic LCD game concept of that era, crafted it to look much more like a fishing rod and included a fishing reel spindle handle for taking up the imaginary line.

By the mid 1990's force feedback was the rage in arcade games and beginning to work its way into game consoles in the form of steering wheels and joysticks.

Larry Dornbusch's U.S. Patent 5,232,223, issued 3 Aug. 1993, set the stage for the completion of the puzzle. Mr. Dornbusch patented a realistic looking fishing rod controller for console games, complete with rod and reel, but without vibratory and force feedback.

All that remained was for someone to come along, grasp onto the Dornbusch concept, strap an LCD fishing game to it and add onboard vibratory and force feedback. It was a few years till someone put it all together. The jury is still out on exactly who that was, but by late 1996, Radica burst on the scene with a series of self contained hand held fishing games that caught the attention of not only gamers, but actual fishermen around the world.

In late 1996 and 1997, several self contained, hand held fishing rod games entered the scene. These added a new dimension of reality to virtual fishing games. In addition to allowing users to cast, set the hook and retrieve fish with more realistic movements, they began to include force feedback. Radica, a Bermuda company headquartered in Hong Kong produced **Bass Fishin'**, the most widely distributed unit, however several other manufacturers were producing similar units in the same time frame.

Radica

Radica practically owned the Self Contained category from the beginning.

The Investor Relations segment of their web site states they introduced the game in 1996.

"For example, Radica's line of fishing games, one of the top-selling product lines in the history of electronic games, revolutionized the electronic handheld games category after its introduction in 1996."

Several of Radica's fishing games were in the U.S. in time for Christmas in 1996. One of the earlier mentions of the **Bass Fishin'** game was in Outdoor Life

Games: Computer & Video Games
Outdoor Life

Dec. 1996

Page 17

Outdoor Life pointed out the game could travel along with you no matter where you area.

The excitement surrounding Radica's Fishin' games grew in 1997 as their distribution system "ramped up". A flurry of coverage of Radica's Bass Fishin' games hit many magazines and newspapers in September and October 1997, just in time for the Christmas. One of these reviews was in Newsbytes

Bass Fishing in Virtual Reality
Newsbytes
Newsbytes News Network
7 Oct. 1997

It mentioned the natural feel of the game, the motion switch that senses when you cast and the reel action. The game "literally brings virtual reality to your hands because you can feel the fish caught on this game. You feel the shaking and then reel it in. The game has a leisure and a tournament mode. In the tournament mode, you try to catch the three largest fish you can in 15 minutes. When playing the game, It's the first of its kind to bring virtual reality to a hand-held game." The article reports "real" bass fishing became popular in Japan after American GI's stocked lakes with bass in the 1950's.

Another review occurred in The Times

Modern Gadgets - Shopping
The Times
18 Oct 1997
by Tim Wapshott

Mr. Wapshott reports his fascination with two toys at this year's toy-industry trade show. He found both to be "novel and infectious." Both were what he called "hand-held air-fishing games" from Radica. Lake **Trout Fishin'** was released this summer and the "bigger and better, sleeker sister", **Deep Sea Fishin'** is now out.

The Japanese press, Mangajin, also reviewed these new devices.

A Nation of Fishing Fools
Mangajin (a magazine for those learning Japanese)
Issue #68 (Sept. 1997)
Pgs. 55-57

The Mangajin article discusses the obsession many Japanese have with fishing. From the popular fishing movie series, *Tsuri-baka Nisshi* (Diary of a Fishing Fool) to video arcades with fishing games, to real fishing, Japanese love to fish. The article is accompanied by notice of some new fishing games, including the self contained hand held fishing game, **Deep Sea Fishin'**, and **Fishing Koshein** "for your Sega playstation."

Manuals for many of Radica's fishing games including: **Sport Bass Fishin'**, **Deep Sea Fishin'**, **Junior Bass Fishin'**, **Lunker Bass Fishin'**, **Mini Bass Fishin'** and **Ultimate Bass Fishin'** are available from the Manuals Tab of their web site.

Radica has since moved / evolved their unit in to even more formats:

- Their **Castmaster Bass Fishin'** game introduced in 2002, consists of a short fishing rod, reel, and a detachable handheld display. Together, they function similar to the early **Bass Fishin'** units, however the hand held display can be detached to allow playing without the rod and reel. When detached, casting is performed with a joystick. Features include sonar, sound, drag, a trophy room and live well to hold your current catch.

- A TV interactive unit called, **Play TV Bass Fishin'** introduced recently, features the XaviX chip from Shinsedai. The Play TV version allows quick hookup to televisions and VCR's. Their once self contained rod, now interacts with the television to provide big screen display of your fishing prowess.

Radica was so successful, they began to attract copycats. Their 31 March 1998 SEC filing (pg 34) reports Bass Fishin' to be the 16th best selling toy in 1997. It also reports :

"U.S. Marshals have seized quantities of Bass Fishin' (knockoffs from Innovative Products, Inc. of York, Pennsylvania.) Seizures took place on Friday February 13 at the Javitz Center Toy Fair Exhibition in New York City and at York, Pennsylvania warehouse."

Radica's 31 Oct 1998 SEC filing (Page 16) similarly reports:

"In April 1998 at the Port of Los Angeles, U.S. Marshals seized quantities of Bass Fishin' (TM) knockoffs imported by Exactly for Smart People, Inc. of Culver City, CA from Techno Power Technology Limited, of Hong Kong. In August 1998, the Company successfully obtained a final settlement from a large Australian toy and games retailer in the form of cash, receipt of all stocks of infringing product and written undertakings from the retailer confirming Radica's exclusive rights in Bass Fishin' (TM) and agreeing not to sell any further copies of counterfeit Bass Fishin' (TM) games. The Company has a number of ongoing negotiations with companies in the U.K., Australia, China and the U.S.A. with regards infringement of its intellectual property rights."

Other Early Self Contained "Fishing Rod" Hand Held Fishing Games

Dreams Come True released a game somewhat similar to the Radica Fishin' games in late 1997 per a report in the Nikkei.

Tokyo Toy Maker to Release Handheld Virtual Fishing Game
Nikkei / Dow Jones Report
23 Oct. 1997

The report stated Dreams Come True would release a portable LCD game on Nov. 11, 1997 "that enables players to experience the sensation of fishing. When a fish bites, the main unit vibrates and the player reels in his catch." The game includes images of Tsuribaka Nisshi, a popular comic and movie fishing personality in Japan. It simulates eight types of fishing conditions, including location and bait type and offers two levels of difficulty. Dreams Come True was projecting sales of 300,000 games by year end. Keita Sata, president of Dreams Come True is the younger brother of Hirohisa Sata, president of Takara Co which introduced a similar product last spring (Spring 1996?).

In 1998, Tiger Electronics produced **Virtual Fishing**, another self contained hand held fishing game. Hasbro still has the operators manual online. Many, many more have followed since then.

Early Arcade Fishing Games

In 1998, Sega released **Get Bass** for the arcade market. By October of 1998, Sega announced they would port **Get Bass** Sega for their Dreamcast console. Games Domain has a excellent "twin" review of the arcade and Dreamcast games. The review states they both have "rumble packs" AND force feedback line tension. The review also talks about the Japanese people and their love of fishing.

Although not specifically a fishing game, the almost ever popular crane game which uses a crane or dropped basket to pickup a toy from a heap of toys shares many aspects with virtual fishing games. You see the prey (toy), there are many of them (toys), they seem so close (catchable), you try to catch it, can see and feel it, many of the best toys "get away", you put more money in and try again.

Reel Feel Sport Controllers

In 1999, Maicomet and Interactive announced their intent to launch a line of "increased realism" sport controllers for fishing and pool games. Pioneered by Chris Meredith and now called Act-Labs, this group once promoted a 30 plus inch virtual fishing reel and owns several virtual fishing patents, however they now appear more focused on game controllers for racing, guns and pool cues.

Miacomet and Interact Announce Agreement to Launch Line of Reel Feel (TM) Sport Controllers Press Release 13 May 1999.

Internet Fishing Games

This section yet to be written.

Wireless (Cell Phone) Fishing Games

i-mode has long been used for fishing games in Japan. A November 30, 2000 entry in Wireless Review reports NTT DoCoMo was offering an i-mode game where players select a type of lure and an actual location in Japan. Then he waits for his handset to ring or vibrate to signal a catch. When he answers, he hears "there's a fish on the virtual line."

Immersion has announced plans to bring haptic (force feedback) technology to mobile phones. The announcement was covered by Games Daily

Force Feedback Going Wireless GamesDaily 9 January 2003

Immersion accomplishes this by replacing normal on/off pagers with special hardware to deliver force feedback. Sounds like its only a matter of time till your phone doubles as your virtual fishing rod (it sure doesn't take a lot of imagination to see the antennae being the rod).

Game Developer 1 Feb. 2003 reported Buzzards Bay Brewing had released a free wireless fishing game developed by Yellow Pepper, a mobile marketing company. Users go to the Buzzard Bay Brewing web site, enter their phone number to receive the game, the winner gets a year's supply of beer. It only operates on two-way SMS-enabled phone of certain networks.

On 20 Oct. 2003, Sega announced a new fishing game on Vodafone Life.

High End Virtual Fishing Simulators

Big screen TV units complete with ocean sized force feedback virtual fishing rods are making the rounds at sales events, trade shows, festivals and other places large crowds gather. I can even picture them on the beach at spring break.

Examples can be seen at FishingSim.Com and [Virtual Fishing Simulator](http://VirtualFishingSimulator.com).

What's Next for Virtual Fishing Games - The Future of Virtual Fishing Games

Virtual Fishing games in most formats have been very lucky. They have been very successful. Several were introduced in the U.S. to take advantage of a specific Christmas purchasing season. For example Radica's Fishin' games were (and are) immensely successful, but never quite broke over in the fad category of being "The toy for

Christmas." Those toys almost always boom and flame out, especially electronic toys like Tamagotchi, Furby, Tickle Me Elmo, Robotic dogs, etc.

For more information the problems manufacturer's face in meeting demand for hot toys, see the references below.

- *Behind Hit Toy, A Race to Tap Seasonal Surge*
LeapFrog's Scramble to Meet Demand Shows New Flex in Global Supply Chain
 Wall Street Journal
 18 Dec. 2003
 Pgs. A1 and A12.
- *Dynamic Simulation of the Supply Chain for a Short Life Cycle Product - Lessons From the Tamagotchi Case.*
 Toru Higuchi and Marvin D. Troutt of Kent State Univ.
 Computers and Operations Research
 2003 (not sure of exact issue, I have a copy)

This reference includes several simulated charts of manufacturing capacity, demand, factory inventory, retail inventory, etc to support the phenomenal growth rate seen by this toy, and the ever present problems at the end (lots of capacity, lots of inventory and nobody wants them anymore.)

Virtual Fishing games have had tremendous "staying power" from year to year, season to season. Their long term "staying power" allows manufacturers, wholesalers and retailers to sleep at night. They know they are guaranteed some sales, although things will be rushed to meet holiday demand, manufacturing and distribution pipelines are well established. Their operations will need attention, but nothing like that associated with "The toy for Christmas." Their games may be released in updated versions and new formats ahead of the holidays, but that is much easier than trying to anticipate the thundering herd of a toy with a huge media induced pent up demand. Virtual Fishing games entered the market and have remained at a threshold below the boom/bust cycle. Part of their success probably lies in being able to "ride the wave" of increasingly powerful computers. Each year brings better resolution, better sound, bigger displays, and increased realism.

In terms of the future, we anticipate virtual fishing games to be around a long time due to the reasons mentioned above. In terms of future technologies, some think the future holds heads-up displays, force feedback gloves, chairs and full body emersion. Personally, I think Radica's recent success with Play TV Fishin' was a nice retro move and anticipate seeing more see more "retro" in the future. Many early fishing gamers are getting older and thinging about buying gifts for their children and grandchildren. They are more comfortable with and attracted to things they remember. Plus they like a more peaceful atmosphere that often surrounds the earlier games. A 1997 study,

A Model for Commodity Intensive Serious Leisure
 Journal of Leisure Research
 Vol.29. No.4 (1997)
 by Daniel Yoder

discusses how "real" Bass Fishing tournaments have changed the very nature of fishing due to the involvement of sponsors. What was once a relaxing hobby, is now a rush here, rush there, fish fast, high tech, catch fast and hurry back workout. Money from sponsors, equipment manufacturers and multiple tiers of professionals has changed the face of the sport. If I may taking the liberty of extending his thoughts over to virtual fishing games, we can see several of the same things happening here. Some games have been strongly sponsored by those in the fishing industry, some require you to keep your attention on depth finders, water temperature, weather, the ever present tournament clock and a host of other variables. Early games were much more relaxed.

Platforms and controls (game consoles, televisions, LCD displays, dedicated fishing controllers and free standing fishing games) will continue to get faster, lighter, have higher resolution, more colors, better sound and offer more realistic experiences. Interactivity with other users via the net, individual consoles, local wireless connections, cell phones or other means will probably increase. Not only electronic communication, but also visual communication via

web cams, avatars and other means.

PCs have moved from desktops, to laptops, to handheld units. Very small PCs may offer additional opportunities for PC fishing games.

Operating systems may come into the picture. Linux continues to not only hang on, but make serious gains against Windows in some markets. There open architecture may offer unique opportunities for virtual fishing games. Linux Game Development Center and many other sites cover the Linux Game industry.

"Picture in a Picture" televisions, split screen tvs and other special tv display methods on traditional, big screen, high definition and plasma displays will offer additional realism, as well as the ability to follow a tv show, movie or sports game along in the background. Interactivity may be extended real time to television shows. Gamers could connect via the net and game during an outdoor show to see who caught the largest or most fish. While watching an outdoor show, your controller might download a custom fishing lure from that show via the air waves, infrared, online or other means. This path has already been used by some interactive toys.

Size sometimes also goes down, many cell phones, PDA's and other small displays are already used as virtual fishing platforms. New small platforms may increase and new platforms may emerge (digital wrist watches?)

Wearable computers have been in the news the last several years. These may also have application to virtual fishing games. Especially if you "flip the game" and think about you being the fish. The game could have others fishing for you, while wearable computers provide force feedback to you depending on your and their actions.

Perhaps we will see greater participation from fishing tackle, boat and related suppliers. See *A Model for Commodity Intensive Serious Leisure* cited in the Miscellaneous Links and References. This reference talks about how equipment manufacturers and sponsors changed the face of "real" bass fishing by creating bass fishing tournaments. They turned a relaxing sport into an "indy pit crew" paced activity.

With knowledge becoming an increasing part of virtual fishing games (which lure should I use, where should I fish, how should I fish, when should I fish, how deep should I fish, how is the weather, season, water temperature, etc) the construct of Serious Leisure may be entering this game category. Robert A. Stebbin of the University of Calgary is a leading Serious Leisure researcher / author.

The ability to save and restart or replay the same game later with minor variations is coming of age.

Battery technologies from lithium to small fuel cells will probably bring longer life and larger displays to hand held games.

Bluetooth or other local wireless interfaces will make freestanding fishing easier.

The internet will probably one day support feedback gaming.

Sound systems are vastly improving. The ability to hear fish make that "plunk" after they jump from the water will be more realistic in the future.

As realism increases, will we ever actually get wet?

The Rosenberg / Immersion Corporation Force Feedback Patents

Louis B. Rosenberg is listed as an inventor on almost 90 of Immersion Human Interface Corp. (now called Immersion Corporation) nearly 200 force feedback patents. Immersion of San Jose CA has a vast patent portfolio covering a wide range of force feedback technologies. Most of the patents are very well written and contain extensive references,

citations and in-depth discussion of the technologies as well as the problems encountered. Several of these patents may have general application to virtual fishing games and many mention computer gaming applications. Immersion refers to its gaming technology as TouchSense.

Mr Rosenberg's early efforts at I-Force, consumer force feedback joysticks, were promoted as a spinoff of NASA technology in NASA's 1997 annual publication, *Spinoff*.

Spinoff 1997
Commercial Benefits- Spinoffs
Consumer/Home/Recreation Section

Immersion's I-Force chip is discussed in the press release announcing an agreement with Kawasaki LSI in 1998.

Immersion Corporation and Kawasaki LSI Team Up On
Force Feedback Controller
Kawasaki LSI Press Release
San Jose CA
May 5, 1998

Immersion can be expected to try to be a player (licensee grantor) in future force feedback gaming applications. Recently, they won a \$26 million lawsuit against Microsoft concerning the Xbox force feedback system. The Albuquerque Journal covered the award.

Shares of Small Tech Company Soar on Settlement from Microsoft
Albuquerque Journal
19 July 2003

A spokesman for Immersion said, "We gave Microsoft a permit to fish on Immersion's river, but we still know where the fish tend to hang out and where to catch them."

More details of the settlement can be found at MacCentral.

Microsoft Settles with Immersion, buys Stake
MacCentral
29 July 2003

Immersion is pursuing a similar suit against Sony, maker of the Playstation 2.

The specific patents Immersion claimed Microsoft and Sony were in infringement of were U.S Patent 5,889,672 and U.S. Patent 6,275,213. However as the case progressed, they dropped withdrew U.S. Patent 5,889,672 from the list and replaced it with U.S. Patent 6,424,333.

Back in August of 1999, Microsoft and Immersion were working together per EDP Weekly's IT Monitor.

Microsoft, Immersion Corp. Collaborate to Advance Feel Simulation Technologies
EDP Weekly's IT Monitor
August 16, 1999

Microsoft's own Press Pass carried details of the collaboration.

Microsoft and Immersion Continue Joint Efforts To Advance Future Development of Force Feedback
Microsoft Press Pass
February of 1998

But by February 2002, Immersion sued Microsoft and Sony per Game Market Watch.

Immersion Corp. sues Sony, Microsoft
Game Watch
11 February 2002

It sounds like Rosenberg has had a bit of an on again - off again relationship with Microsoft. Back in 1996 Microsoft was courting him and Immersion for an exclusive license to their force feedback technology. But he turned them down and went to their competitors per Business Week.

Trying to Stick it to Microsoft
Business Week
21 Oct. 1996

Sounds like they were at odds in 1995, collaborating in 1998 and suing them in 2002. Not uncommon in today's on-again, off-again relationships between small technical players and mega corporations.

Immersion's patents include:

- **U.S. Patent 5,576,727**
Electromechanical Human-Computer Interface With Force Feedback
One of his earliest patents, issued 19 Nov. 1996.
- **U.S. Patent 5,691,898**
Safe and Low Cost Computer Peripherals With Force Feedback for Consumer Applications
- **U.S. Patent 5,734,373**
Method and Apparatus for Controlling Force Feedback Interface Systems Using a Host Computer
- **U.S. Patent 5,739,811**
Method and Apparatus for Controlling Human-Computer Interface Systems Providing Force Feedback
- **U.S. Patent 5,889,672**
Tactile Responsive User Interface Device and Method Therefor
Originally listed by Immersion as infringed in the Microsoft/Sony suit, but later withdrawn
- **U.S. Patent 5,929,607**
Low Cost Force Feedback Interface With Efficient Power Sourcing
- **U.S. Patent 5,929,846**
Force Feedback Interface Device Including Grounded Sensor System
- **U.S. Patent 6,275,213**
Tactile Feedback Man-Machine Interface Device
Listed by Immersion as infringed in the Microsoft/Sony suit
This patent was originally assigned to Virtual Technologies
- **U.S. Patent 6,424,333**
Tactile Feedback Man-Machine Interface Device
Listed by Immersion as infringed in the Microsoft/Sony suit
- **U.S. Patent 6,563,487**
Haptic Feedback for Directional Control Pads
Specifically written at console game control pads
- **U.S. Patent 6,654,000**

Physically Realistic Computer Simulation of Medical Procedures

Their recent work has focused on several specific applications, including this medical procedure simulation patent issued 25 Nov. 2003.

Immersion also sometimes counts certain patents initially issued to other firms in its portfolio, meaning it has probably also acquired rights or partial rights to them including:

- **U.S. Patent 5,220,260**

Actuator Having Electronically Controllable Tactile Responsiveness

Invented by Schuler and assigned to Lex Computer and Management Corporation

Note this patent's date (issued 15 June 1993), significantly increasing their reach backward in time.

- **U.S. Patent 5,414,337**

Actuator Having Electronically Controllable Tactile Responsiveness

Invented by Schuler and assigned to Lex Computer and Management Corporation

A follow up to the patent above.

- **U.S. Patent 6,275,213**

Tactile Feedback Man-Machine Interface Device

Listed by Immersion as infringed in the Microsoft/Sony suit

This patent was originally assigned to Virtual Technologies

Those interested in electronic game patents, might find a current white paper by the International Game Developers Association, titled IP Rights White Paper of interest.

Patents can be viewed for free from the U.S. Patent and Trademark Office The USPTO site requires a tiff viewer to support the graphics.

Virtual Fishing Rod & Reel Patents

- **U.S. Patent 4,700,501**

Combined Fishing Rod and Fishing Line Vibrator

This is an actual fishing rod that vibrates the fishing line to attract real fish. Its Background of Invention section cites numerous earlier patents for fishing line vibrators. It is included here for reference as many virtual fishing rods vibrate the rod to simulate a "bite".

- **U.S. Patent 5,203,563**

Shaker Control Device

Assigned to **Atari**. Electric motor rotates eccentric weights to simulate vibration in a steering wheel for a video game simulator. Similar processes are used to "shake" virtual fishing reels.

- **U.S. Patent 5,232,223**

Electronic Game Controller

Fishing rod acts as a game controller for an electronic game like Nintendo "The Big Black Bass" by HOT-B-USA. It allows actual fishing motions to be input to the game. It does not provide force feedback. This patent appears to be the "prime" U.S. patent that opened this field. It has been cited by over 60 other patents.

- **U.S. Patent 5,516,105**

Acceleration Activated Joystick

Assigned to **Exergame**. Video game user interface allows user to input realist arm, leg and body movements to video

game.

- **U.S. Patent 5,542,672**

Fishing Rod and Reel Electronic Controller

Invented by Chris Meredith, later of Miacomet and **Act-Labs**. Uses a microprocessor, gyroscope and some magnets to simulate the forces of catching a fish. See also U.S. Patent # 5,730,655.

- **U.S. Patent 5,713,792**

Fishing Game Device and a Simulated Fishing Reel

Assigned to **Sega**. Arcade game.

- **U.S. Patent 5,730,655**

Fishing Rod and Reel Electronic Game Controller

Invented by Chris Meredith, later of Miacomet and **Act-Labs**. Uses a microprocessor, gyroscope and some magnets to simulate the forces of catching a fish. See also U.S. Patent # 5,543,672.

- **U.S. Patent 5,897,437**

Controller Pack

Assigned to **Nintendo**. Vibration source shakes the entire game control console. Most earlier shakers only shook joysticks.

- **U.S. Patent 6,312,335**

Input Device, Game Device, and Method and Recording Medium for Same

Assigned to **Sega**. Fishing rod device provides input to a Sega game machine and receives outputs which include driving some rotating eccentric weights to vibrate the rod. See also U.S. Patent 6,517,438.

- **U.S. Patent 6,325,719**

Controller for Game Machine

Assigned to **Namco**. General purpose controller for car games and fishing games includes force feedback on reel winding, does not mention vibration.

- **U.S. Patent 6,354,945**

Controller

Assigned to Alps Electric Co. Game controller can feedback both force and vibration. It mentions fishing games.

- **U.S. Patent 6,354,948**

Video Game Apparatus, Method of Computing Amount of Takeup of String

Assigned to **Konami**. Covers a method of calculating the amount of fishing line in use during a fishing game.

- **U.S. Patent 6,361,436**

Fishing Game Device

Assigned to **Sega**. Arcade game.

- **U.S. Patent 6,402,617**

Fishing Game Device

Assigned to **Sega**. Arcade game.

- **U.S. Patent 6,517,438**

Input Device, Game Device and Method and Recording Medium for Same

Assigned to **Sega**. Fishing rod controller for a console game includes force feedback and vibration. See also U.S. Patent 6,312,335.

- **U.S. Patent 6,537,124**

Fishing Toy

Assigned to **Staff Co., Ltd** of Japan. Toy fish combined with fishing rod system. You actually fish in a small pool, bathtub, etc.

- **U.S. Patent 6,537,154**

Game Controller

Assigned to **Alps Electric Co.** Controller contains an electric generator that produces forces a torque used as the feedback force.

- **U.S. Patent 6,589,117**

Fishing Game System and Input Device Therefor

Assigned to **Konami**. Arcade game.

U.S. Design Patents

- The following three design patents by **Radica** are for the popular *Bass Fishin'* game and variations of it.

- **Des 397,371**
- **Des 397,372**
- **Des 397,729**

- **Des 412,016** *Computerized Fishing Rod and Reel* Invented by Chris Meredith, later of Miacomet and **Act-Labs**. A fishing reel controller for video games.

- **Des 413,359** *Handheld Electronic Fishing Game* Assigned to ABD International Traders, Inc. Keychain fishing game.

- **Des 435,554**

Controller

Invented by Chris Meredith, later of Miacomet and **Act-Labs**. Looks like a computer mouse modified to look like a fishing reel. Appears to include a port for a detachable fishing rod.

Japanese Patents

- **JP Patent 63174681**

Assigned to **Nanao KK**. An early fishing game patent (1988) Did not use weights for feedback.

- **JP Application Number 06-65667 Publication Number 07-248723**

Fishing Simulator

Assigned to **Kochi Pref. Gov.** Arcade sized device.

- **JP Patent 7211196**

Operation Equipment for Game Machine

Assigned to **Sega**. Rotational shaft (resembles a fishing reel on its side) video game controller. Does not include force feedback.

- **JP Patent 8196742**

Fishing Game Apparatus and False Reel Used Therewith

Assigned to **Sega**. Arcade game.

- **JP Application Number 11-029401 JP Publication Number 2000-225269**

Virtual Fishing Game Toy

Assigned to **Sente Creations KK**. Rod shakes when a fish is on the line.

- **JP Application Number 11-060518 Publication Number 2000-254346**

Toy for Simulating Fishing

Assigned to **Sente Creations KK**. Includes sound feedback.

World Patents

- **W09805204 Fishing Rod and Reel Electronic Game Controller**

Invented by Chris Meredith, later of Miacomet and **Act-Labs**. Uses a microprocessor, gyroscope and some magnets to simulate the forces of catching a fish. See also U.S. Patent 5,730,655 and U.S. Patent 5,543,672.

Some Related U.S. Patents by Chris Meredith

- Computerized Pool Cue Controller patents:
 - 6,106,392
 - 6,217,450
 - 6,220,963
- Laser Light Sword: U.S Patent Application 2001/0024973

Miscellaneous Links & References

- The World of Computer Fishing Games a site from Denmark providing excellent coverage of fishing games.
- Ebay information on many classic fishing games can often be found in their descriptions in ebay listings
- Haptics-e the electronic journal of haptics (force feedback)
- Recent Developments and Trends in Keychain Virtual Pets: An Illustrated Report. Our 1997 report on the evolution of keychain virtual pets. Many similarities exist between the paths chosen by virtual pet designers and that chosen by virtual fishing game designers.
- Virtual Pet Frenzy. By Gary Polson. Virtual Pet Secrets Magazine. Pgs. 28-41. A later printed version of the reference above, with new images.
- A Model for Commodity Intensive Serious Leisure. by Daniel Yoder. Journal of Leisure Research. 1997. Vol.29. No.4. Pgs. 407-429. Comprehensive discussion of how Bass Fishing contest have changed the very nature of fishing due to the involvement of sponsors. What was once a relaxing hobby, is now a rush here, rush there, fish fast, catch fast and hurry back pastime. Money from sponsors, equipment manufacturers and multiple tiers of professionals has changed the face of the sport. Several concepts put forward in this article area also relevant to virtual bass fishing.
- How to Catch Torque. Design News. 23 Sept. 2002. Discusses design of *Angler King* fishing game by Namco and focuses on how they used a magnetic particle brake to simulate reel torque.
- Yahoo Groups Computer Fishing Games a discussion board about computer fishing games

References We Are Still Searching For

- The Hong Kong Trade Development Council prints *Hong Kong Enterprise*, a magazine promoting products built in Hong Kong. A specific issue of this magazine is mentioned in several virtual fishing patents. Oct 1994 Pg. 133 is the page in question. It is mentioned by Design Patent 412,016 and several others.
- Minsky, Margaret *Feeling and Seeing: Issues in Force Display*. ACM 1990 Pgs. 235-242. Cited by patent

#5,734,373. We have a rough draft of a similar paper mention in the force feedback section above.

- Road and Track described Hard Drivin' in their 1989 August issue Pgs. 88-89.

Helpful Search Terms

Those doing additional research in this field may find the search terms below helpful.

- force feedback
- haptic
- game controller
- fishing game
- console
- Radica
- Immersion
- rumble pack
- NTSC-J

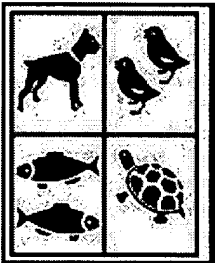
Polson Enterprises Research Services

We have been working with virtual pets since mid 1996 and assist in the development of virtual pets in all formats. We provide technical, market and patent information support, identify potential partners, review pet designs and maintain a vast library of virtual pet materials in all media forms (wireless, mechanical pets, fishing games, keychain pets, java pets, online pets, CD rom pets, robots, vp downloads, game cartridges, board games, playing cards, etc).

Polson Enterprises web site: www.virtualpet.com provides further information on our services.

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